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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,670	01/03/2002	Eliel Louzoun	42390P11425	8281

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EXAMINER

AUVE, GLENN ALLEN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/037,670

Applicant(s)

LOUZOUN ET AL.

Examiner

Glenn A. Auve

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7-15,19,22-27,30-37,41,43-46,52-60,64,66-74 and 77-80 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7-15,19,22-27,30-37,41,43-46,52-60,64,66-74 and 77-80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 25,26,30, and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 is rejected because it depends on canceled claim 17. Claim 26 depends on claim 25.

Claim 30 is rejected because it depends on canceled claim 29. Claim 31 depends on claim 30.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 7, 10, 11, 13-15, 22-24,27, 33-36, 46, 52, 55, 56, 58-60, 66-67, 70-72, 74, 77, and 78 are rejected under 35 U.S.C. 102(b) as being anticipated by Buch, 5,669,002.

As to claims 1, 7, 10, 11, 13, and 14, 1: Buch discloses a method, comprising: receiving from a first requester a request to write a second indicator that comprises an identifier of the first requester to a first indicator that indicates if a component is available (a request for access is in effect a request to write the requestor's identity to the lock register since the request will determine if the lock register is available as denoted by the G0 designation and the requestor's identity is then written to the register if it gains access because the component is available); determining, in response to receiving the write request from a first requester (i.e., processor), whether a component is available; and replacing, if the component is available, a first indicator (i.e., G0 vector, indicating unlocked state) indicating that the shared resource is available, with a second indicator (i.e., unique ID vector of locking processor) reducing access to the component, to permit access to the component by the first requester, 7: wherein determining, in response to receiving the write request from the first requester, whether the component is available comprises determining a presence of the first indicator, 10: further comprising receiving, by execution of a write request by a second requester upon completion of access to the component by the second requester, a third indicator (i.e., G0 vector) increasing access to the component to replace the second indicator, 11: wherein the operation comprises a write of the third indicator, 13: wherein the first requester and the second requester comprise one requester, 14: wherein the first indicator and the third indicator comprise a same indicator (i.e., G0 vector) (note column 2, line 13 – column 3, line 5 and column 3, line 28 – column 5, line 60).

b. As to claims 15, 22-24, 60, 66, 67, 70, and 71 the claim limitations have already been discussed with respect to claims 1, 7, 10 and 13 above.

c. As to claims 27, and 33-36, Buch discloses a method of obtaining access to a shared resource, comprising: writing a second value to a register (i.e., lock register); and changing, as a result of said writing to the register if the register detects a first value (i.e., unlocked status vector G0); indicating that the shared resource is available, the first value to a second value (i.e., node ID vector of accessing device/process); and limiting access to the shared resource (i.e., locking access to devices/processes with IDs other than the one matching the second value), 33: further comprising: receiving from the register the first value (i.e., unlocked status vector G0) indicating that the shared resource is available; accessing the shared resource; and changing upon completion of access to the shared resource, the second value (i.e., locked status value – locking device's ID) to a third value (i.e., unlocked status vector G0) increasing access to the shared resource, 34: wherein changing the second value to the third value comprises writing the third value to the register (note column 2, lines 50-59, column 4, lines 43-64, column 5, lines 17-30, column 5, lines 46-60), 35: wherein the first value, the second value and the third value comprise variables, 36: wherein the first value and the third value comprise a same variable (note column 2, line 13 – column 5, line 60).

f. As to claims 46, 52, 55, 56, 58, and 59 the claim limitations have already been discussed with respect to claims 1, 7, 10, 13, and 14 above.

g. As to claims 72, 74, 77, and 78, Buch discloses an apparatus (i.e., computer system of Figure 1) comprising: a resource (note Figure 2, shared records); a storage area in the resource (note Figure 2, element 78 – lock registers); a first value (i.e., unlocked state vector G0) in the storage area, which the storage area changes to a second value (i.e., processor node ID vector) in response to a request from a requester to write an identifier of the requester to the storage area (as noted above for claim 1); and the second value in the storage area, 74: wherein the storage area comprises a register (i.e., lock registers), 77: wherein the first value

indicates that the resource is available, 78: wherein the second value reduces access to the resource (note column 2, line 1 – column 5, line 60).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 19, 41, 43-45, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buch, 5,669,002 (hereinafter Buch).

a. As to claims 19, 41, and 64, although Buch fails to disclose that the first indicator is maintained in a set-by-write register written to by the processes attempting to access the component, Buch does disclose that the registers are written to in response to processes attempting to access the component (note column 2, lines 13-36 and column 4, lines 10-35 and column 4, line 65 – column 5, line 16 and column 5, lines 31-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the registers written to by any equivalent means, including by the processes themselves, or in response to a read access to the registers by the processes, since the underlying concept of writing a values to the registers to indicate that the shared resource is locked is not impacted by the manner in which the write is performed.

d. As to claim 43, Buch discloses that the second value comprises an identifier of a process and reading the register to determine that the register contains the identifier (note column 2, lines 13-48).

e. As to claims 44 and 45, Buch discloses that replacing the second indicator with the third indicator comprises writing the third indicator to the register, wherein the first indicator and the third indicator comprise the same indicator (note column 4, lines 43-64).

7. Claims 32 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buch, 5,669,002 (hereinafter Buch) in view of Dror, 5,276,886.

As to claims 32 and 73, Buch fails to disclose that the shared resource comprises a peripheral device in a computer system.

Dror discloses that the shared resource comprises a peripheral device in a computer system (note column 1, lines 7-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the shared resource be a peripheral device, as Dror teaches, in the system of Buch so as to allow for the sharing of peripheral device among multiple processors and processes without errors and synchronization problems, as Dror teaches at column 1, lines 16-42.

8. Claims 12, 37, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buch, 5,669,002 (hereinafter Buch) in view of Montgomery et al., 6,529,933 (hereinafter Montgomery).

a. As to claims 12 and 57, Buch fails to disclose that the first requester and the second requester comprise processes.

Montgomery discloses that the first and second requesters comprise processes (note column 1, lines 15-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the requesters be processes, as Montgomery teaches, in the system of Buch so as to allow multiple processes to coordinate their work on a common task, as Montgomery teaches at column 1, lines 15-22.

b. As to claim 37, the claimed elements have already been discussed with respect to claim 15, above, with the exception of the steps comprising: reading and writing of the registers by a process.

Buch fails to disclose that the reading and writing of the register is done by a process.

Montgomery discloses that the a process does the reading and writing of a semaphore (note column 1, lines 15-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the requesters and therefore the readers and writers of the lock registers of Buch be processes, as Montgomery teaches, so as to allow multiple processes to coordinate their work on a common task, as Montgomery teaches at column 1, lines 15-22.

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9. Claims 8, 9, 23, 24, 53, 54, 68 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buch, 5,669,002 (hereinafter Buch) in view of Marshall et al., 6,529,983 (hereinafter Marshall).

a. As to claims 8, 23, 53, and 68, Buch fails to disclose that wherein determining, in response to receiving the write request from the first requester, whether the component is available comprises determining based on an external indicator that the component is available.

Marshall discloses that determining whether a component is available comprises determining based on an external indicator that the component is available (note column 12, line 53 – column 13, line 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of an external indicator to determine if the component is available, as Marshall teaches, in the system of Buch so as to allow for the locking of multiple resources, as Marshall teaches at column 13, lines 4-8.

b. As to claims 9, 24, 54, and 69, Marshall discloses that the external indicator comprises a flag (i.e., condition code register comprises multiple bits/flags indicating various status conditions).

10. Claims 79 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buch, 5,669,002 (hereinafter Buch) in view of Schiffleger, 5,526,487.

a. As to claim 79, Buch fails to disclose that the storage area is linked to other storage areas containing the first value.

Schiffleger discloses that the storage area is linked to other storage areas containing the first value (note column 1, lines 36-59 and claims 1 and 10).

It would have been obvious to one of ordinary skill in the art at the time of the invention

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to employ the use of a storage area linked to other storage areas containing the first value, as Schiffleger teaches, in the system of Buch so as to allow for the limiting of access by a plurality of devices to shared resources within a single cluster, as Schiffleger teaches at column 1, lines 36-59.

b. As to claim 80, Schiffleger discloses that the other storage areas change the first value to the second value when the storage area changes the first value to the second value (note column 1, lines 36-59 and claims 1 and 10).

Response to Arguments

11. Applicant's arguments filed 10 January 2005 have been fully considered but they are not persuasive. Applicant argues that Buch does not show the first requester executing a write of the second indicator. However, as noted above in the rejection, the requestor in Buch attempts to access the resource. If the resource is available then the first requestor writes its identifier (the second indicator) to replace the first indicator in the lock register. Therefore this argument is not persuasive. Applicant does not appear to make any other arguments.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

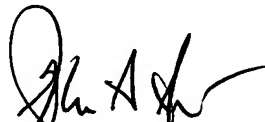
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn A. Auve whose telephone number is (571) 272-3623. The examiner can normally be reached on M-F 8:00 AM-5:30 PM, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571) 272-3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Glenn A. Auve
Primary Examiner
Art Unit 2111